IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A computer implemented method of identifying a boundary condition between components of an object subjected to finite-element analysis, said object including a plurality of components, and having a plurality of elements positioned between the plurality of components, the method comprising the steps of:

calculating in an arithmetic device

a plurality of calculated mode vectors, and

natural frequencies or resonance frequencies of a plurality of components of the object said calculating step including

executing a computer implemented finite-element method model of the object to indicate a boundary condition between the plurality of components of the object;

extracting an extracted, calculated mode vector of the plurality of calculated mode vectors having a degree of correlation at or above a predetermined threshold, said degree of correlation being relative to an experimental mode vector obtained in an experiment, said extracting step includes reducing a number of the plurality of calculated mode vectors by filtering said plurality of calculated mode vectors using at least one of order ratio filtering, component comparison filtering and frequency filtering; and

identifying the boundary condition of the elements based on the extracted, calculated mode vector and the natural frequency or the resonance frequency corresponding to the extracted, calculated mode vector.

Claim 2 (Previously Presented): The method according to claim 1, wherein the step of extracting includes the steps of:

determining the degree of correlation at least one time by residual degrees of freedom when n degrees of freedom giving a largest degree of correlation are eliminated from arithmetic operation; and

extracting the extracted, calculated mode vector when the degree of correlation exceeds the predetermined threshold..

Claim 3 (Previously Presented): The method according to claim 1, wherein the step of calculating includes:

defining a plurality of conditions for each of the elements and a plurality of levels for each of the plurality of conditions; and

calculating the natural frequencies or the resonance frequencies of the finite-element method models and the calculated mode vectors by adopting an experimental design.

Claim 4 (Previously Presented): The method according to claim 1, wherein a mode reducing model of a single component in which the mode vector up to a necessary frequency band is adopted is used as the component of the finite-element method model.

Claim 5 (Previously Presented): The method according to claim 1, wherein the step of identifying the boundary condition comprising the steps of:

performing an arithmetic operation for an evaluation value indicating an error between the experiment and the calculation for each of a plurality of conditions based on the extracted, calculated mode vector and the natural frequency or the resonance frequency corresponding to the extracted, calculated mode vector; and

identifying the boundary condition of the elements so that the evaluation value is minimized.

Claim 6 (Previously Presented): The method according to claim 1, wherein the step of identifying the boundary condition comprising the steps of:

identifying the boundary condition between the components by using a spring between the components as an element contained in the finite-element method models to identify a spring constant of the spring between the components.

Claim 7 (Previously Presented): A computer program product embodied on a computer-readable recording medium, comprising code, when executed causes a computer to perform steps comprising:

calculating in an arithmetic device

a plurality of calculated mode vectors, and

natural frequencies or resonance frequencies of a plurality of components of the object said calculating step including

executing a computer implemented finite-element method model on the object to indicate a boundary condition between the plurality of components of the object;

extracting an extracted, calculated mode vector of the plurality of calculated mode vectors having a degree of correlation at or above a predetermined threshold, said degree of correlation being relative to an experimental mode vector obtained in an experiment; and

identifying the boundary condition of the elements based on the extracted, calculated mode vector and the natural frequency or the resonance frequency corresponding to the extracted, calculated mode vector.

Claim 8 (Canceled).

Claim 9 (New): The method of Claim 1, wherein said extracting step further comprises determining a degree of correlation of remaining calculated mode vectors after said filtering step.

Claim 10 (New): The method of Claim 1, wherein said predetermined threshold being 0.8 or larger.